

WHAT IS CLAIMED IS:

1. A method of assembling first and second optical assemblies of an optical head comprising:

positioning the first and second optical assemblies adjacent to each other, wherein the first optical assembly comprises a first optical element, wherein the second optical assembly comprises a second optical element, and wherein the first and second optical elements are configured to transmit light for reading or writing data to an optical data storage media;

adjusting a position of a first optical assembly with respect to the second optical assembly until the first optical element and second optical elements are in optical communication with each other;

rigidly connecting the first and second optical assemblies while the first and second optical elements are in optical communication with each other.

2. The method of claim 1 wherein the first optical element comprises a first optical axis, wherein the second optical element comprises a second optical axis, and wherein the position of the first optical assembly is adjusted with respect to the second optical assembly until the first optical axis is in substantial optical alignment with the second optical axis.

3. The method of claim 1 further comprising viewing the second optical component through the first optical component, wherein the position of the first optical assembly is adjusted until the second optical component is seen optically concentric with the first optical element.

4. The method of claim 1 wherein rigidly connecting the first and second optical assemblies comprises applying a first adhesive to the first and second optical assemblies and activating the first adhesive to create a fixed bond between the first and second optical assemblies.

5. The method of claim 4 wherein first and second optical assemblies engage each other while the first adhesive is applied thereto.

1 6. The method of claim 5 wherein the first adhesive is UV light activated,
2 wherein activating the first adhesive comprises subjecting the first adhesive to UV
3 light.

1 7. The method of claim 1 wherein the second optical assembly further
2 comprises first and second light beam shaping elements, wherein light is transmitted
3 from the second optical element to the first optical element via a light path, wherein
4 the light path comprises first, second, and third sections, wherein the first section
5 extends between the second optical element and the first light beam shaping element,
6 wherein the second section extends between the first and second light beam shaping
7 elements, wherein the third section extends between the second light beam shaping
8 element and the first optical element, and wherein the second section extends
9 orthogonally to the first and third sections.

1 8. A method of assembling an objective lens and an optical assembly of an
2 optical head comprising:
3 positioning the objective lens and the optical assembly adjacent to each other,
4 wherein the optical assembly comprises an optical element, wherein
5 objective lens is configured to focus a laser beam onto an optical data
6 storage media for reading or writing data thereto;
7 adjusting a position of the objective lens with respect to the optical assembly
8 until the objective lens and optical element are in optical
9 communication with each other;
10 rigidly connecting the objective lens and the optical assembly while the
11 objective lens and the optical element are in optical communication
12 with each other.

1 9. The method of claim 8 wherein the objective lens comprises a first optical
2 axis, wherein the optical element comprises a second optical axis, and wherein the
3 position of the objective lens is adjusted with respect to the optical assembly until the
4 first optical axis is in substantial optical alignment with the second optical axis.

1 10. The method of claim 8 further comprising viewing the optical component
2 through the objective lens, wherein the position of the objective lens is adjusted until
3 the optical component is seen optically concentric with the objective lens.

1 11. The method of claim 8 wherein the objective lens is rigidly connected to a
2 spacer, wherein rigidly connecting the objective lens and the optical assembly
3 comprises applying a first adhesive to the spacer and optical assembly and activating
4 the first adhesive to create a fixed bond between the spacer and the optical assembly.

1 12. The method of claim 11 wherein the spacer and the optical assembly
2 engage each other while the first adhesive is applied thereto.

1 13. The method of claim 12 wherein the first adhesive is UV light activated,
2 wherein activating the first adhesive comprises subjecting the first adhesive to UV
3 light.

1 14. The method of claim 1 wherein the optical assembly further comprises
2 first and second light beam shaping elements, wherein light is transmitted from the
3 optical element to the objective lens via a light path, wherein the light path comprises
4 first, second, and third sections, wherein the first section extends between the optical
5 element and the first light beam shaping element, wherein the second section extends
6 between the first and second light beam shaping elements, wherein the third section
7 extends between the second light beam shaping element and the objective lens, and
8 wherein the second section extends orthogonally to the first and third sections.

1 15. A method of assembling an objective lens and an optical assembly of an
2 optical head comprising:
3 positioning the objective lens and the optical assembly adjacent to each other,
4 wherein the optical assembly comprises a forward sense element
5 (FSE);
6 adjusting a position of the objective lens with respect to the optical assembly
7 until the objective lens and the FSE are in optical communication with
8 each other;

9 rigidly connecting the objective lens and the optical assembly while the
10 objective lens and the FSE are in optical communication with each
11 other.